



SEQUENCE LISTING

<110> SYODA, MAKOTO
SUGANO, YASUSHI
KUBOTA, HIDETOSHI

<120> NOVEL ENZYME WITH DECOLORIZING ACTIVITY AND METHOD FOR DECOLORIZING DYES
BY USING THE SAME

<130> 213129US0PCT

<140> US 09/926,084

<141> 2001-08-27

<150> JP99/11-050562

<151> 1999-02-26

<160> 16

<170> PatentIn version 3.1

<210> 1

<211> 6

<212> PRT

<213> Geotrichum candidum

<400> 1

Thr Tyr Val Pro Glu Arg
1 5

<210> 2

<211> 8

<212> PRT

<213> Geotrichum candidum

<400> 2

Cys Pro Phe Gly Ala His Val Arg
1 5

<210> 3

<211> 21

<212> PRT

<213> Geotrichum candidum

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Ile Pro Tyr Gly Pro Glu Thr Ser Asp Ala Glu Leu Ala Ser Gly Val
1 5 10 15

Thr Ala Gln Asp Arg
20

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<213> Geotrichum candidum

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Ser Gly Ala Pro Ile Asp Leu Ala Pro Thr Ala Asp Asp Pro Ala Leu
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Gly Ala Asp Pro Gln
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<210> 5
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<213> Geotrichum candidum

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Pro Tyr Gly Pro Glu Thr
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Pro Thr Ala Asp Asp Pro
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<210> 7
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<212> PRT
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<400> 7

Met Asp Leu Ser Leu Phe Val Val Ser Val Ala Val Leu Val Gly Ser
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Ser Ser His Val Asn Ala Ala Lys Leu Gly Ala Arg Gln Thr Arg Thr
20 25 30

Thr Pro Leu Leu Thr Asn Phe Pro Gly Gln Ala Pro Leu Pro Thr Leu
35 40 45

Thr Gln His Thr Thr Glu Ser Gly Ala Asn Asp Thr Ile Leu Pro Leu
50 55 60

Asn Asn Ile Gln Gly Asp Ile Leu Val Gly Met Lys Lys Gln Lys Glu
65 70 75 80

Arg Phe Val Phe Phe Gln Val Asn Asp Ala Thr Ser Phe Lys Thr Ala
85 90 95

Leu Lys Thr Tyr Val Pro Gln Arg Ile Thr Ser Ala Ala Ile Leu Ile
100 105 110

Ser Asp Pro Ser Gln Gln Pro Leu Ala Phe Val Asn Leu Gly Phe Ser
115 120 125

Asn Thr Gly Leu Gln Ala Leu Gly Ile Thr Asp Asp Leu Gly Asp Ala
130 135 140

Gln Phe Pro Asp Gly Gln Phe Ala Asp Ala Ala Asn Leu Gly Asp Asp
145 150 155 160

Leu Ser Gln Trp Val Ala Pro Phe Thr Gly Thr Thr Ile His Gly Val
165 170 175

Phe Leu Ile Gly Ser Asp Gln Asp Asp Phe Leu Asp Gln Phe Thr Asp
180 185 190

Asp Ile Ser Ser Thr Phe Gly Ser Ser Ile Thr Gln Val Gln Ala Leu
195 200 205

Ser Gly Ser Ala Arg Pro Gly Asp Gln Ala Gly His Glu His Phe Gly
210 215 220

Phe Leu Asp Gly Ile Ser Gln Pro Ser Val Thr Gly Trp Glu Thr Thr
225 230 235 240

Val Phe Pro Gly Gln Ala Val Val Pro Pro Gly Ile Ile Leu Thr Gly
245 250 255

Arg Asp Gly Asp Thr Gly Thr Arg Pro Ser Trp Ala Leu Asp Gly Ser
260 265 270

Phe Met Ala Phe Arg His Phe Gln Gln Lys Val Pro Glu Phe Asn Ala

275

280

285

Tyr Thr Leu Ala Asn Ala Ile Pro Ala Asn Ser Ala Gly Asn Leu Thr
 290 295 300

Gln Gln Glu Gly Ala Glu Phe Leu Gly Ala Arg Met Phe Gly Arg Trp
 305 310 315 320

Lys Ser Gly Ala Pro Ile Asp Leu Ala Pro Thr Ala Asp Asp Pro Ala
 325 330 335

Leu Gly Ala Asp Pro Gln Arg Asn Asn Asn Phe Asp Tyr Ser Asp Thr
 340 345 350

Leu Thr Asp Glu Thr Arg Cys Pro Phe Gly Ala His Val Arg Lys Thr
 355 360 365

Asn Pro Arg Gln Asp Leu Gly Gly Pro Val Asp Thr Phe His Ala Met
 370 375 380

Arg Ser Ser Ile Pro Tyr Gly Pro Glu Thr Ser Asp Ala Glu Leu Ala
 385 390 395 400

Ser Gly Val Thr Ala Gln Asp Arg Gly Leu Leu Phe Val Glu Tyr Gln
 405 410 415

Ser Ile Ile Gly Asn Gly Phe Arg Phe Gln Gln Ile Asn Trp Ala Asn
 420 425 430

Asn Ala Asn Phe Pro Phe Ser Lys Pro Ile Thr Pro Gly Ile Glu Pro
 435 440 445

Ile Ile Gly Gln Thr Thr Pro Arg Thr Val Gly Gly Leu Asp Pro Leu
 450 455 460

Asn Gln Asn Glu Thr Phe Thr Val Pro Leu Phe Val Ile Pro Lys Gly
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Gly Glu Tyr Phe Phe Leu Pro Ser Ile Ser Ala Leu Thr Ala Thr Ile
 485 490 495

Ala Ala

<210> 8
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 <213> *Geotrichum candidum*

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<210> 9
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 <213> *Geotrichum candidum*

<220>
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 <222> (13)..(14)
 <223>

<400> 9

Gln Ala Pro Leu Pro Thr Leu Thr Gln His Thr Thr Glu Val Ala Pro
 1 5 10 15

Phe Thr Gly Thr Thr Ile His Gly Val Phe
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<210> 10
 <211> 26
 <212> PRT
 <213> *Saccharomyces cerevisiae*

<220>
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 <222> (13)..(14)
 <223>

<400> 10

Gly Pro Val Leu Val Arg Leu Ala Trp His Thr Ser Gly Arg Glu Val
 1 5 10 15

Val Ala Leu Met Gly Ala His Ala Leu Gly
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<210> 11
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 <213> *Escherichia coli*

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Ala Gly Leu Phe Ile Arg Met Ala Trp His Gly Ala Gly Glu Thr Val
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Ala Leu Ile Ala Gly Gly His Thr Leu Gly
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<210> 12
 <211> 26
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 <213> *Arthromyces ramosus*

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 <222> (13)..(14)
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Val Arg Lys Ile Leu Arg Ile Val Phe His Asp Ala Ile Asp Glu Val
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Val Asp Leu Leu Ala Ala His Ser Leu Ala
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<210> 13
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 <212> PRT
 <213> *Phanerochaete*

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Ala His Glu Val Ile Arg Leu Thr Phe His Asp Ala Ile Phe Glu Val
 1 5 10 15

Val Ser Leu Leu Ala Ser His Thr Val Ala
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 <213> *Phanerochaete chrysosporium*

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<222> (13)..(14)
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Ala His Glu Ser Ile Arg Leu Val Phe His Asp Ser Ile Leu Glu Leu
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Val Trp Met Leu Ser Ala His Ser Val Ala
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Gly Ala Ser Ile Leu Arg Leu Phe Phe His Asp Cys Phe Arg Asp Met
1 5 10 15

Val Ala Leu Ser Gly Ala His Thr Ile Gly
20 25

<210> 16
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<221> NON_CONS
<222> (13)..(14)
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<400> 16

Ala Ala Ser Ile Ile Arg Leu His Phe His Asp Cys Phe Ser Asp Leu
1 5 10 15

Val Ala Leu Ser Gly Gly His Thr Phe Gly
20 25